

Utah Department of Transportation Traffic Management Division

August 2013
Monthly Report



2060 South 2760 West Salt Lake City, Utah 84104 801-887-3710 www.udottraffic.utah.gov



Mission of the Traffic Management Division

- To Support UDOT and the Department of Public Safety to Achieve Zero Fatalities.
- To Help Provide Reliable and Efficient Travel Throughout Utah.
- To Provide Useful and Timely Real-time Traffic Information.
- To Work Together with Other Government Agencies to Serve the Public.
- To Provide Excellent Customer Service.

Field Devices Summary

Freeway PTZ Cameras	341	Freeway VMS	86
Arterial PTZ Cameras	385	Surface Street VMS	53
RWIS & Contracted Weather Cameras	154	Portable TOC VMS	7
Viewable Detection Cameras	88	Legacy Trucks Prohibited VMS	21
Total Cameras	968	Total VMS	167
HAR (27 permanent/5 portable)	32	TMS	529
RWIS	82	Traffic Signals	1496
Ramp Meters	65		

Operations Summary

VMS Messages Displayed	68,319	IMT Assists	2108
Signal Timing Work Orders	37	Website Visitor Sessions	82,244
Signal Maintenance Work Orders	153	511 Calls	11,932
All New Work Orders	359	Weather Desk Calls	228
Incident Responses by the TOC	702	Ask CommuterLink Questions	39
Incident Duration Average Minutes	62	UDOT Traffic Followers and Re-tweets	196,408

ITS Operations Highlights

August 2013

Control Room Operators provided support for incidents, construction, closures, special events and weather. Some of the information tools the operators are responsible for include variable message signs, 511, highway advisory radio, J-Page texts and incident management software. The Operators are also responsible for the emergency alerts, planned special events, incidents and construction that are on the UDOT traffic website. The operators are managed by control room manager, Michael Evans.

Traveler Information A presentation about UDOT Traveler Information and the Citizen Reporter Program was given at a national 511 webinar; hosted the State Homeland Security Team to a TOC tour; and was interviewed by Traffic Technology International Magazine about UDOT's rural ITS deployments

Traffic Signal Operations has been working throughout the state this month.

In Region 1, the team assisted Project Development to prepare the MOT/Signal/Maintenance South Davis design-build project; assisted Logan City prepare to kick-off their traffic signal interconnect project; and assisted the Hill Field Rd thru-turn and super-street concept review.

In Region 2, the team worked with Project Development analyzing future traffic impacts for the I-15 Point Project; updated Wasatch Blvd. signal coordination plans; worked with Salt Lake City Traffic staff to develop Salt Lake Bees game day signal timing plans; and assisted with rebuilding traffic signals at 4500 South 2700 East and 4800 West 5400 South.

In Region 3, the team activated a new signal at 400 North Redwood Road in Saratoga Springs; rebuilt two signals in Provo and Payson; and established communication with the 1300 South US-189 in Heber City.

In Region 4, the team activated the new traffic signal at 760 North Carbonville Road in Price; worked with St. George City to connect several city owned traffic signals to the UDOT signal network; and monitored the St. George diverging diamond interchange and made signal timing adjustments.

Traffic Modeling began working on new department wide traffic analysis standards. Standards used during I-15 CORE and in other states will be the foundation to the new standards. The team is continuing to develop algorithms for three new Congestion Reporting Measures: Travel Time, The Congestion Cake, and Congestion Forecasting. Once completed, sample reports will be presented to UDOT senior leaders for final approval. The team has started modeling the I-15 interchange at 2700 North in Ogden.

ITS Asset Management integrated five new TMS, one CCTV, two RWIS and six signals. They also continued upgrading the TMS system by identifying sites needing repair.

.ATMS Maintenance –

Teaming – The Field and Lab Teams replaced 1000 conductor feet of damaged power conductors at 10600 South I-15. The Lab, Field and Express Lane Teams repaired about 14 different sites along the Express Lane corridor.

Field Team replaced 10 more Adaptive VMS photo sensors; and worked with Maintenance Crew 235, completing the communications and power installation for the new I-80 and US-40 bridge deicing system. The team installed RWIS road sensors at Soldier Summit, installed a solar RWIS site on SR-24 in Wayne County, and identified VMS/CCTV problems on the US-189 construction project at SR-113 and at US-40. The team also closed 99 work orders.

Lab Team tested and/or repaired 20 ATMS devices; repaired a multi-display Flex Lane sign; and assembled and burned in 5 traffic signal cabinets. The team provided assistance for the I-80 variable speed limit project, and a demonstration project which will deploy a 180 degree viewing angle camera to monitor a UDOT fence being frequently damaged. The team deployed a portable VMS to support the Rockport Fire and added a redundant power supply to the Salt Lake City TCC fiber switch. The team has also been working with Wavetronix to improve data quality for a number of TMS sensors recently deployed at several I-15 locations.

ITS Operations Highlights

ATMS cont.

Express Lanes Team, with assistance from the Lab and Field Teams repaired about 14 different sites along the Express Lane corridor. The Team also closed 249 system generated work orders.

Fiber Team replaced fiber switches in Communications Hub 12, the TOC and in two cabinets; and inspected a pull box replacement effort at 600 South 500 West in Salt Lake and along Parrish Lane. The team tested fiber for the UTA Light Rail project and the Tooele Dispatch Center. They worked with Salt Lake County on a construction project at 3900 South 2300 East, the I-80 project and St George fiber re-route effort. The team made fiber repairs for the VMS on I-80 MM 100 near Lake Point and at 2100 South Highland Drive.

Weather Information hosted the quarterly State Hazard Mitigation Team (SHMT) meeting at the Traffic Operations Center. Burn scar flooding was a hot topic. The UDOT weather group has responded to this problem by locating a portable RWIS trailer on a ridgeline above the Seeley Fire burn scar on SR-31 and on along SR-32 near the Rockport Five Fire burn scar. Multiple agencies have benefited from the rainfall alerts sent directly from the RWIS station. The SHMT group toured the TOC and weather group following the meeting.

The Weather Group generated 155 weather alerts for August. Most were related to burn scar flooding, especially in Huntington canyon. In all, there were 228 public interactions, which was well above the average of 69 for August. The Huntington Shed Supervisor, Mike Stuart, remarked "I really appreciate the Weather Group's help, justifies all the work we are doing." The Cedar City Shed Supervisor, Ed Pectol, noted "We got your alert yesterday and we are cleaning out ditches and culverts in advance of the heavy rain expected".

Region 1 -- Matt Smith1.

Fiber Loop from UDOT Region 1 HQ to I-15:

Has been completed and integrated.

Ogden Area Signal Interconnect:

Concept, locations and design needs to be re-examined.

SR 193 Extension:

This project is under construction.

I-15; SR126 to US-91:

This project is near completion. Integration and inspection is ongoing.

I-15; I-84 interchange to SR-30:

This project is complete.

I-15; SR-30 to the Idaho State line:

This project is being designed by PineTop Engineering and is ready to advertise. This project needs major funding for ATMS.

Logan City Main Street Integration:

This project has been completed.

Ogden Canyon Small VMS and Fiber:

This project is under construction.

The VMS is complete. The canyon fiber is ongoing.

ITS Deployment Highlights

Region 1 – Matt Smith cont.

Layton Interchange:

This project is in design.

Brigham DDI Interchange:

This project is in design.

Weber Canyon De-Icing sign communication:

This project is in design.

US-89; SR-193 to Cornia Drive:

This project is in design.

US-89; Antelope Drive Extension:

This project is in design.

Region 2 -- Chris Siavrakas

I-80 Parley's Canyon Variable Speed Limit - Construction has begun with installing the variable speed limit signs in Parley's Canyon. We are also working with a consultant to update the software driver to communicate with the signs with our ATMS control software. Field testing of the sign should take place in September with the operation beginning in October. We have also contracted to have a special web-based software interface allowing for the Region Traffic Operations Engineer to evaluate the speed conditions during adverse weather, assess the current driver speeds, and implement the change of the speed limit.

Tooele County Dispatch Fiber Connection - Fiber splicing to the Tooele County Dispatch Center is complete. We are now working on the inside to configure the video control devices. This will allow dispatchers to see our camera images as well as provide an access point in their County Emergency Operations Center to fully control the ATMS system, similar to other EOC's. Having this connectivity will allow us to grow our ATMS system in the Tooele area.

Region 3 – Brad Cameron

SR-68 @ 400 North, Saratoga – Established/designed fiber to new signal.

US-89; 800 N to Geneva, Orem – Evaluated fiber design changes needed to continue project.

I-15 NB VMS near 2100 North Lehi – Project approved by MAG. Funding set up.

US-189; Wallsburg to Heber – Determined the cause of device failure. Started the internal process to get issues resolved.

US-40 NB VMS; Heber – Had to re-test fiber and re-start the 30 day burn-in process.

US-40 @ 2500 South Naples – Installed CCTV on new signal. Started 30 day burn-in process.

ITS Deployment Highlights

Region 4 - Matt Smith.

St. George:

There is a contract in place to replace and upgrade all existing canopy radios and connect all or most of the remaining signals to the network. Work has been completed.

Small VMS at Beaver and Parawan:

These Wanco VMS have been installed.

VMS on I-15 from Scipio to St. George:

Integration is complete and all devices are now working well. They have completed testing on the network.

VMS for I-70 and SR-6:

The concept has been completed and for the three locations; WBI-70 (East of Green River Exit), EB I-70 (Prior to Salina Interchange), SB US-6 (Near Helper and adjacent to Existing NB VMS.. This project has been funded and will proceed to design.

Fiber upgrade for US-6, Helper and Price Signal Integration:

We have hired a contractor off the fiber procurement contract for the fiber portion. We are waiting for signal connections from Emery Telecom.

Various Small VMS locations for ICY Bridge at I-70 and Fish Springs, and Halls Crossing at Lake Powell:

Concept and design is complete. Cache Valley Electric has been hired to work on this.

I-15; North Beaver to Manderfield:

This project is in design.

I-15; Cedar City Two VMS:

Project is under construction.

ITS Standards and Specifications:

Attended the August 2013, Standards Committee meeting.

Work continues on improvements to AT 07A, AT 11A, AT 11B and bracket details AT 11C.

Work continues on the modifications made to the RWIS drawings.

Work re-started on the VMS Cantilever and Tee structures with HNTB providing previous computation files to the Bridge Design Unit for review and inclusion in the new Bridge Design Manual.

Procurement:

Work continued with UDOT Procurement for the amendment process to bring the new Fiber Maintenance and Repair bid items and measurement and payment descriptions onto the contract.

Anixter is the low bidder for the nine Conductor CCTV control cable used in traffic surveillance.

Work started on bid documents to contract Electronic Technician services. They are needed to help TOC Maintenance and Operations staff keep up with the ITS devices assignments.

Work started on bid documents for Traffic Control services. These services will be used for ITS device maintenance work. Ciena presented their products and answered questions relating to the TOC fiber optic system to determine what product or service is useful to the TOC.

ITS Deployment Highlights

ITS Standards and Specifications cont.

Special Training Sessions:

Talley Sales gave a question and answer session for TOC staff to better understand the applications for Redline Radios AN 80i and AN 3000 versions. The topics included Master and Slave radio arrays for arterial corridors (AN 3000), point to point and point to multipoint setups were also described (AN 80i).

George Lukes presented the WIKI for the Design Manual of Instruction to the TOC Staff.

Other:

A field trip to visit new, small VMS installations, used in Region 4 for traveler information. One project involves an “Icy Bridge” message to warn motorists of icy conditions, the others are for advising motorists of mountain pass conditions.

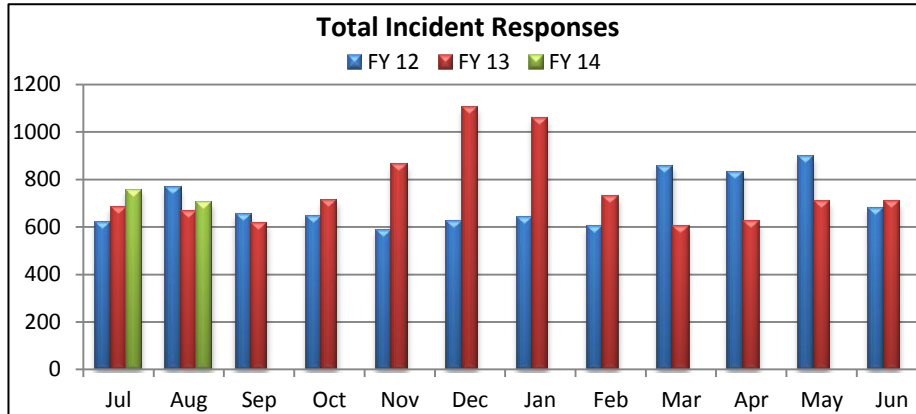
Traffic Operations Center Bids Farewell to Ahmad Jaber



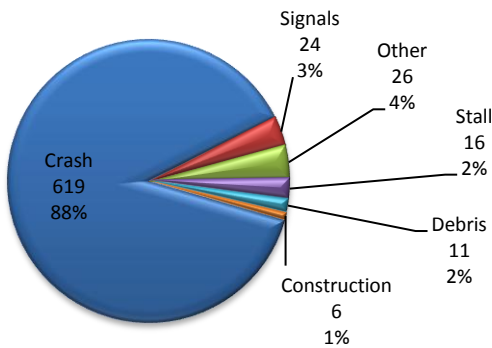
Acronyms

CCTV Closed Circuit Television	I2TMS Integrated Interagency Traffic Management System
RWIS Road-Weather Information System	TOC Traffic Operations Center
DPS Department of Public Safety	VMS Variable Message Sign
TMS Traffic Monitoring Station	ITS Intelligent Transportation System
HAR Highway Advisory Radio	TMD Traffic Management Division

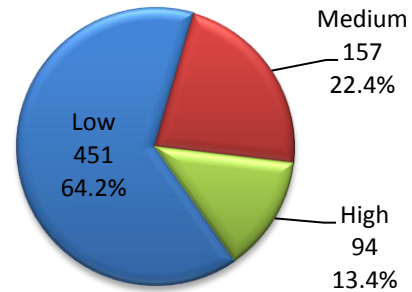
An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Crashes are separated into three subcategories: property damage, personal injury, and fatal. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts. An incident remains active until it has been completely cleared from the roadway.



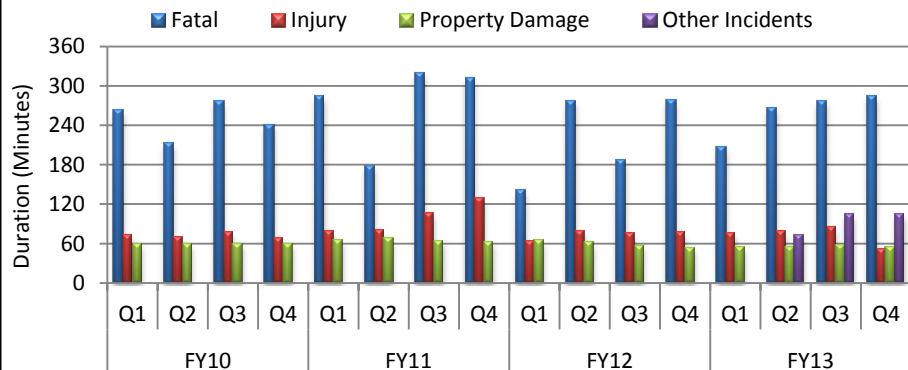
Incidents By Type for August 2013



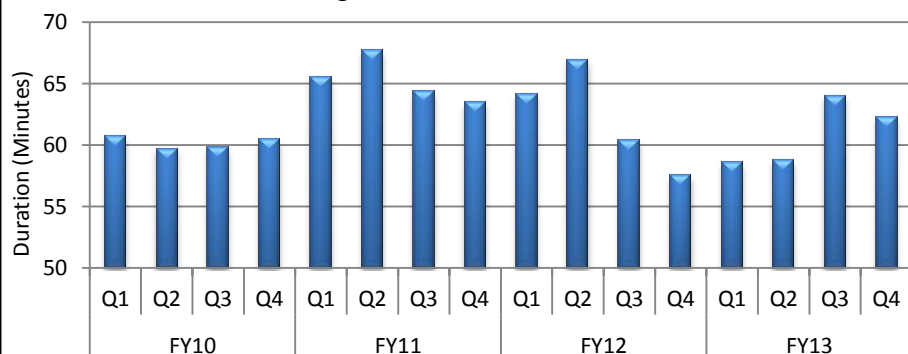
Incidents by Severity for August 2013



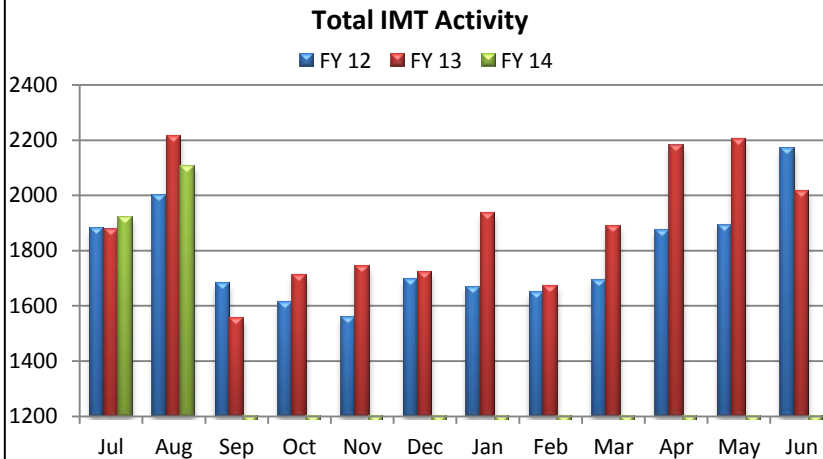
Average Crash Duration



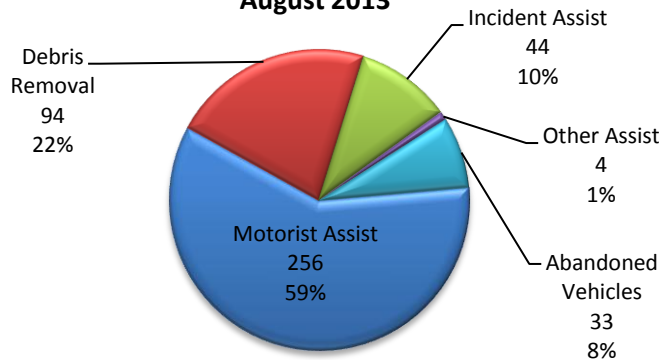
Average Duration of All Incidents



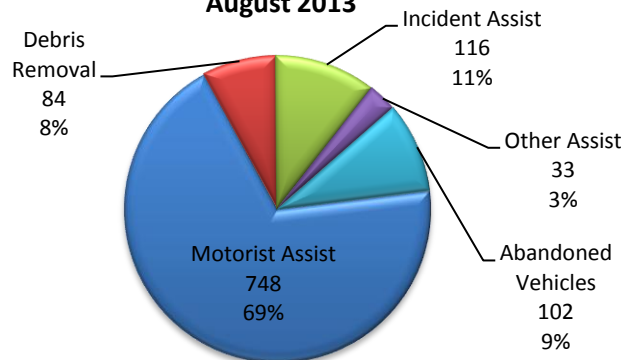
Incident Management Team (IMT) Activities



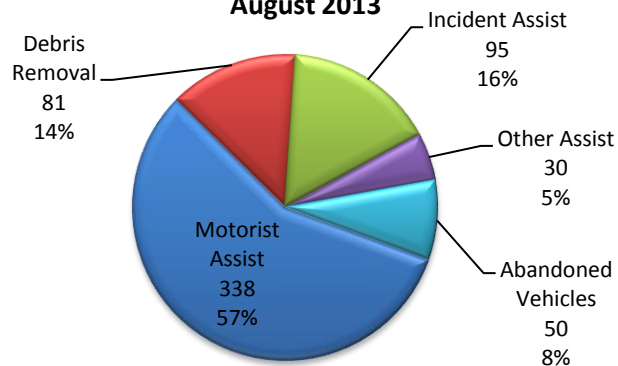
**IMT Activities by Type for UDOT Region 1
August 2013**



**IMT Activities by Type for UDOT Region 2
August 2013**



**IMT Activities by Type for UDOT Region 3
August 2013**



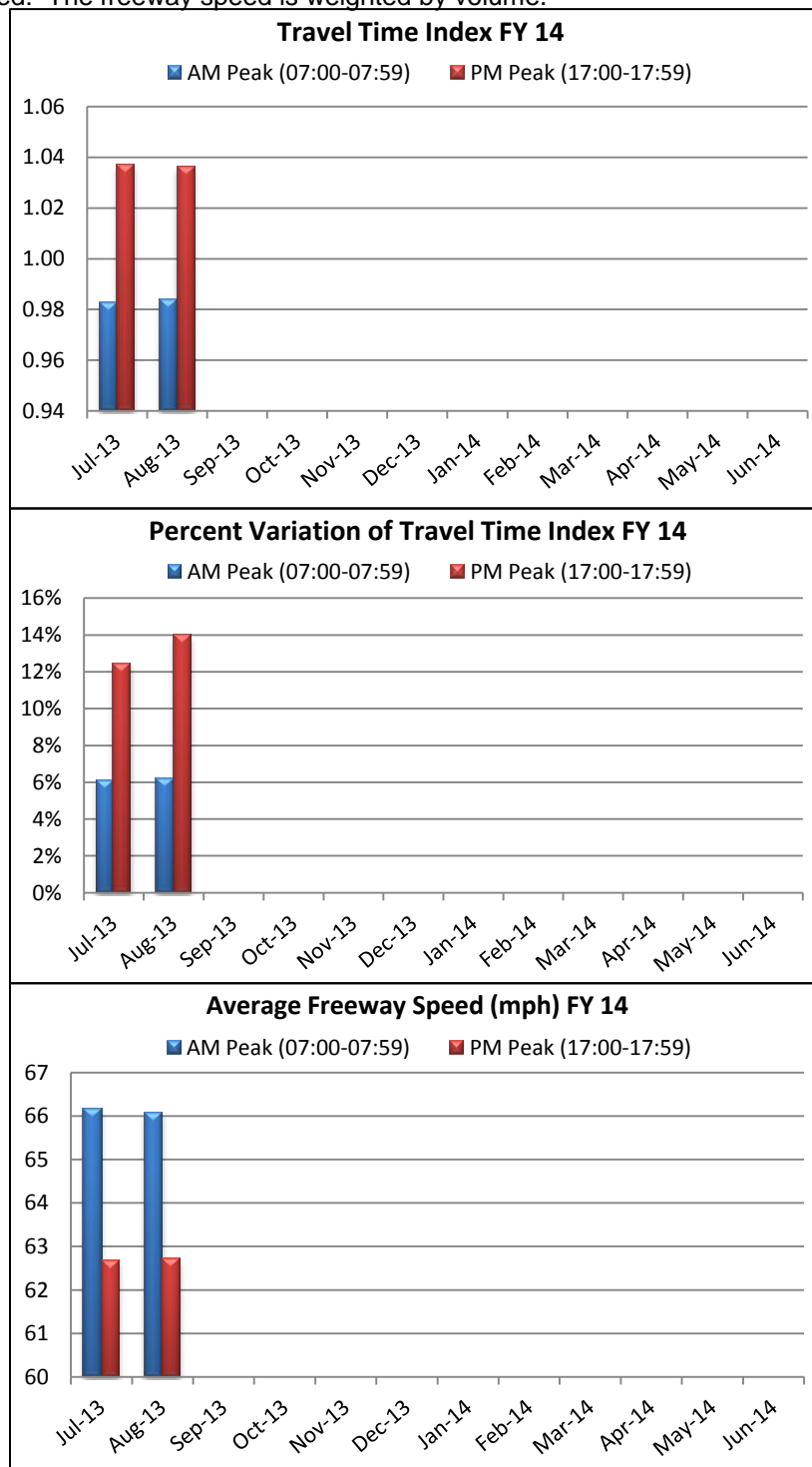
Freeway Traffic Level of Service

Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Wasatch Front. As more TMS sites are installed throughout the state, they will be included in these performance measures.

Travel Time Index: This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

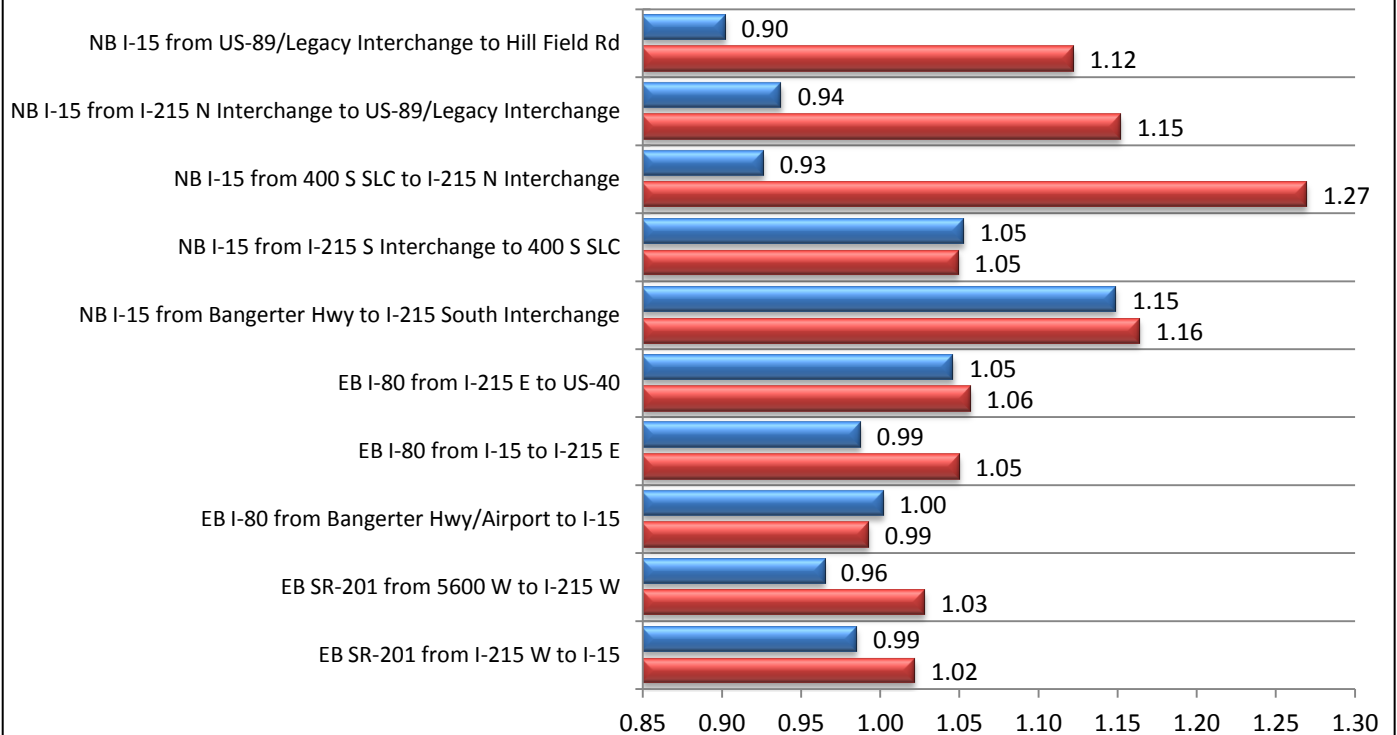
Percent Variation of Travel Time Index: The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

Average Freeway Speed: The freeway speed is weighted by volume.



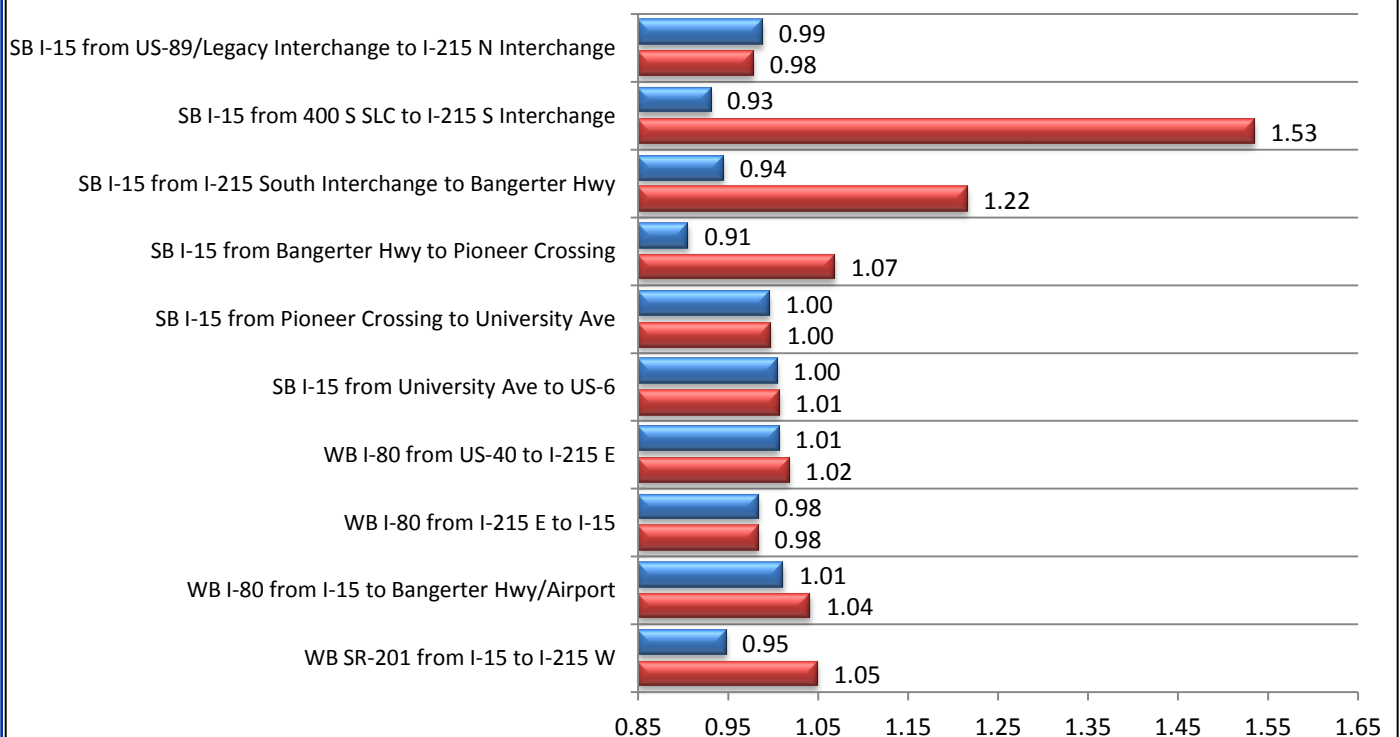
(+) Direction (NB, EB, Clockwise) Top 10 Peak Travel Time Index by Segment for August 2013

■ AM Peak (07:00-07:59) ■ PM Peak (17:00-17:59)

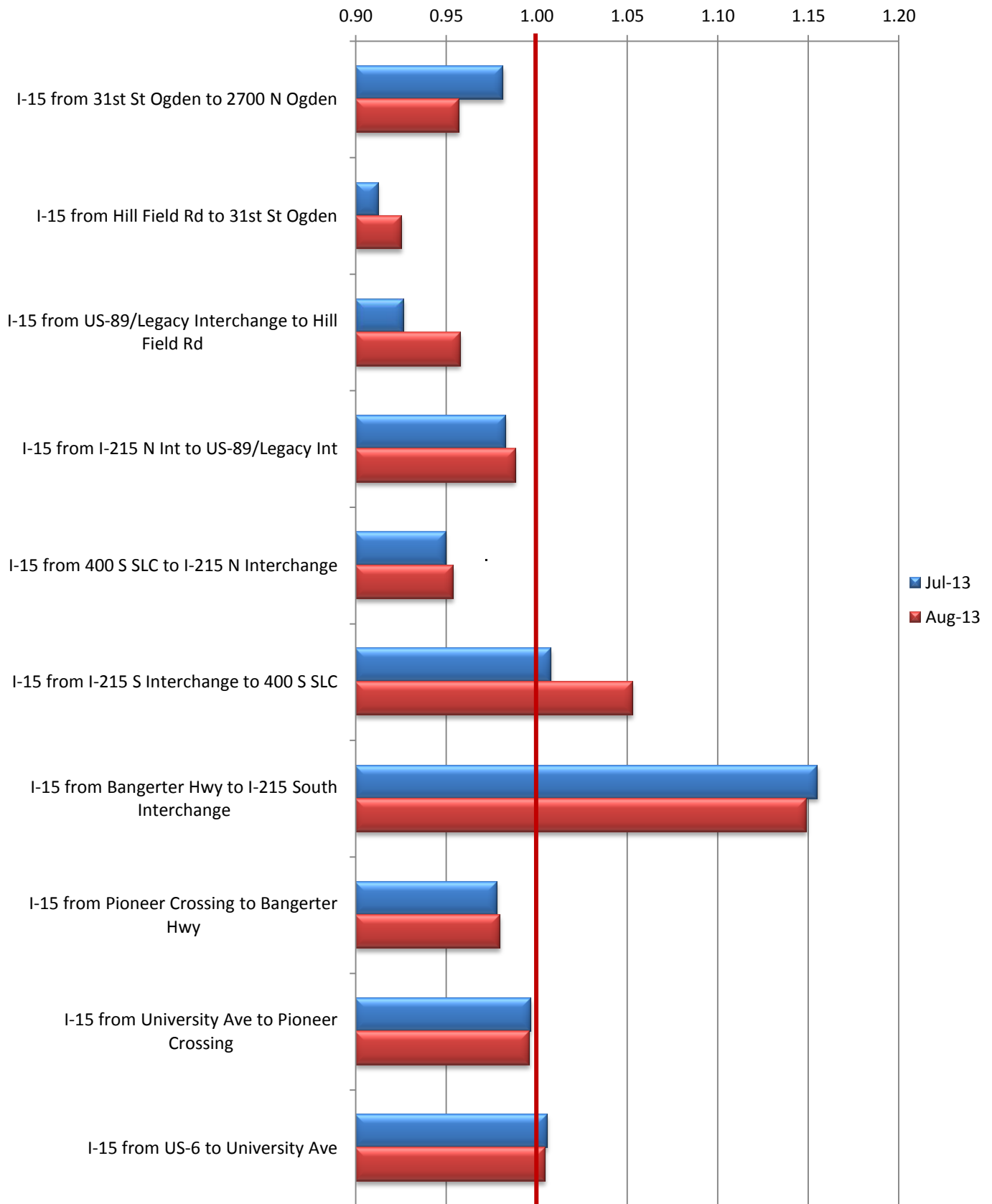


(-) Direction (SB, WB, Counter Clockwise) Top 10 Peak Travel Time Index by Segment for August 2013

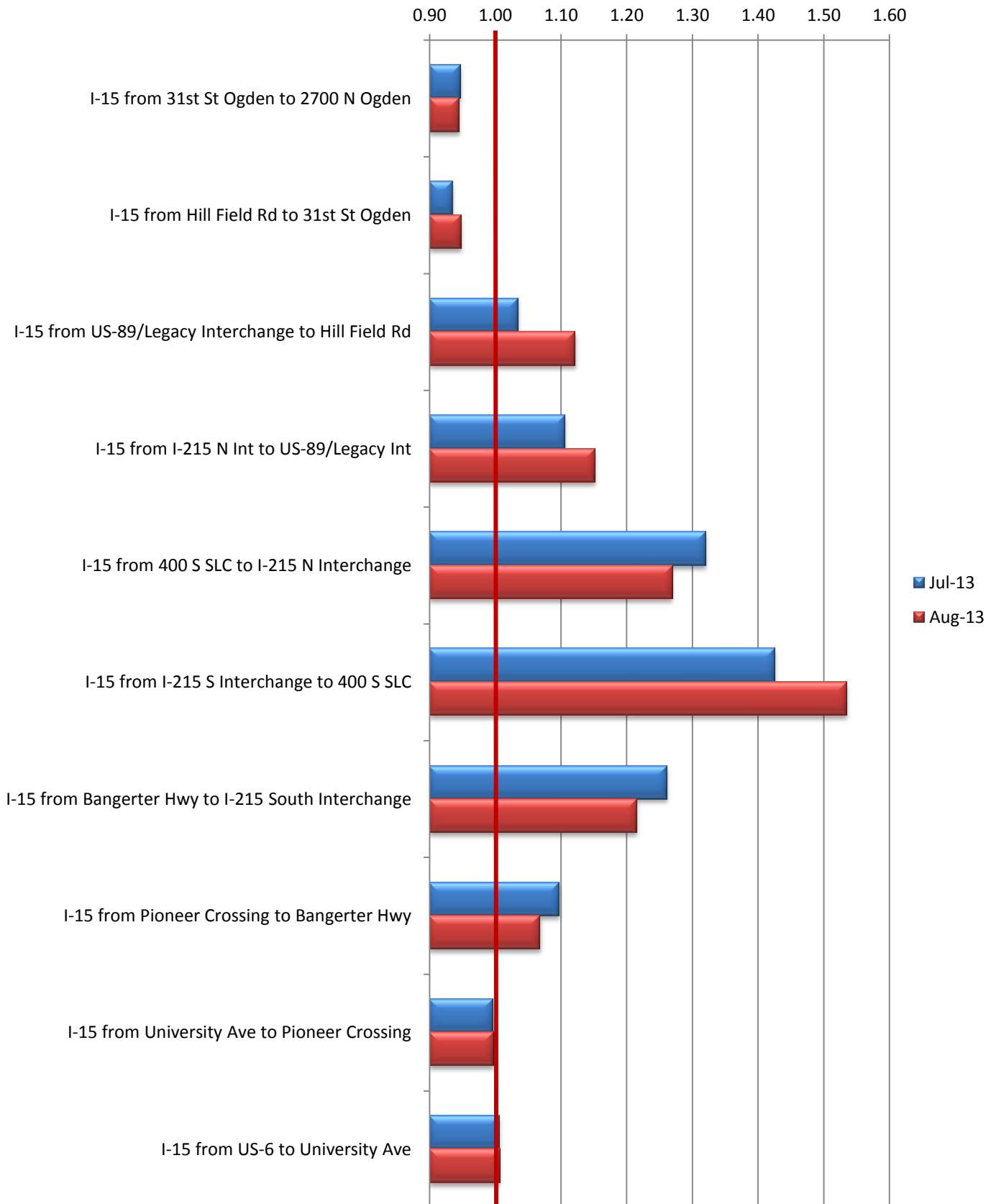
■ AM Peak (07:00-07:59) ■ PM Peak (17:00-17:59)



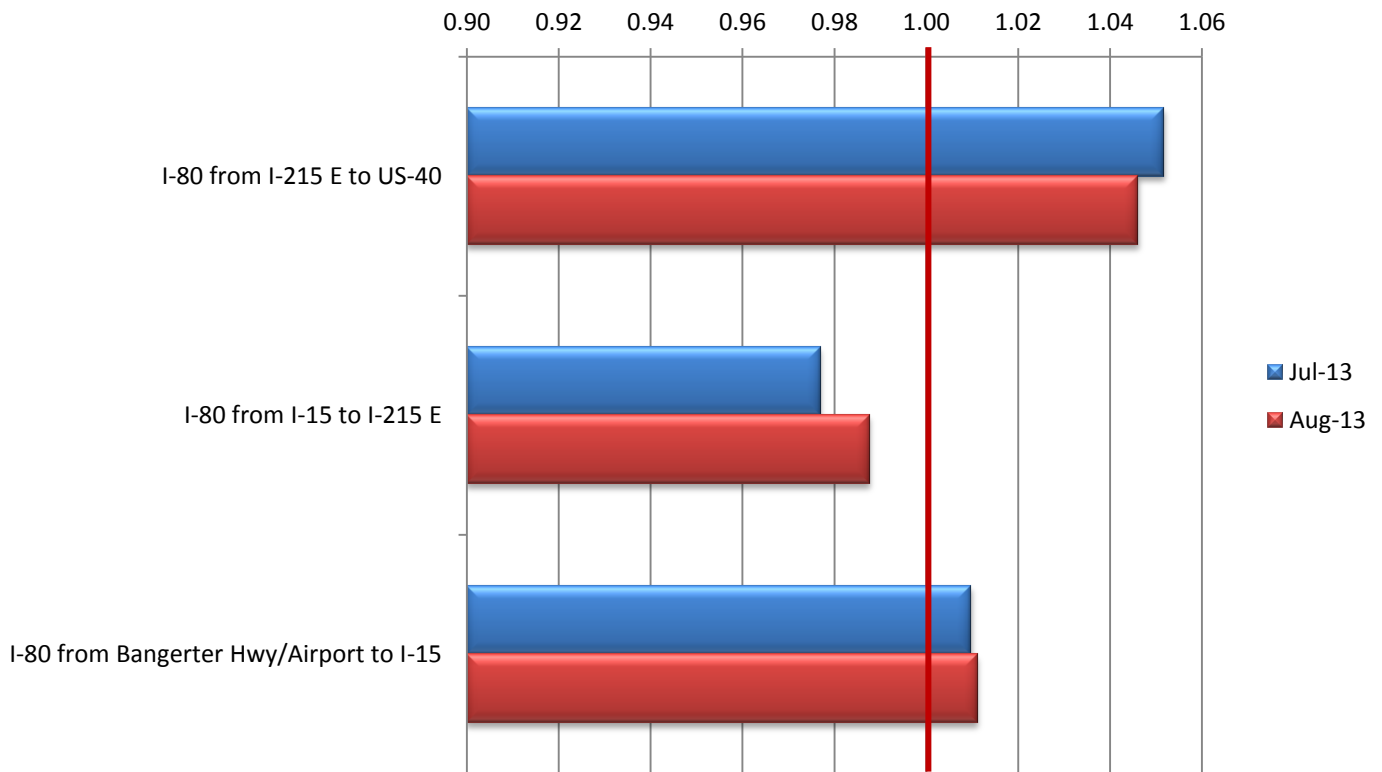
AM Peak Travel Time Index for I-15 FY 14



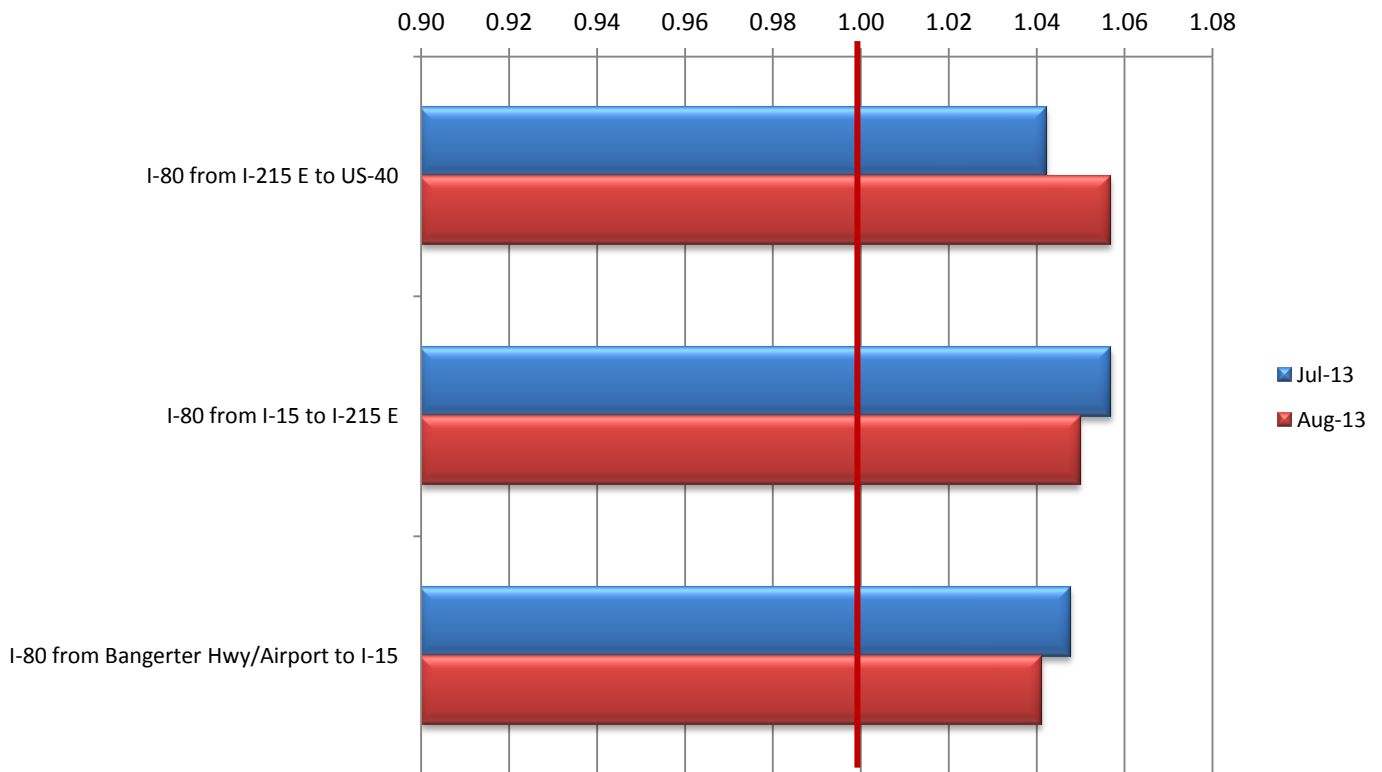
PM Peak Travel Time Index for I-15 FY 14



AM Peak Travel Time Index for I-80 FY 14

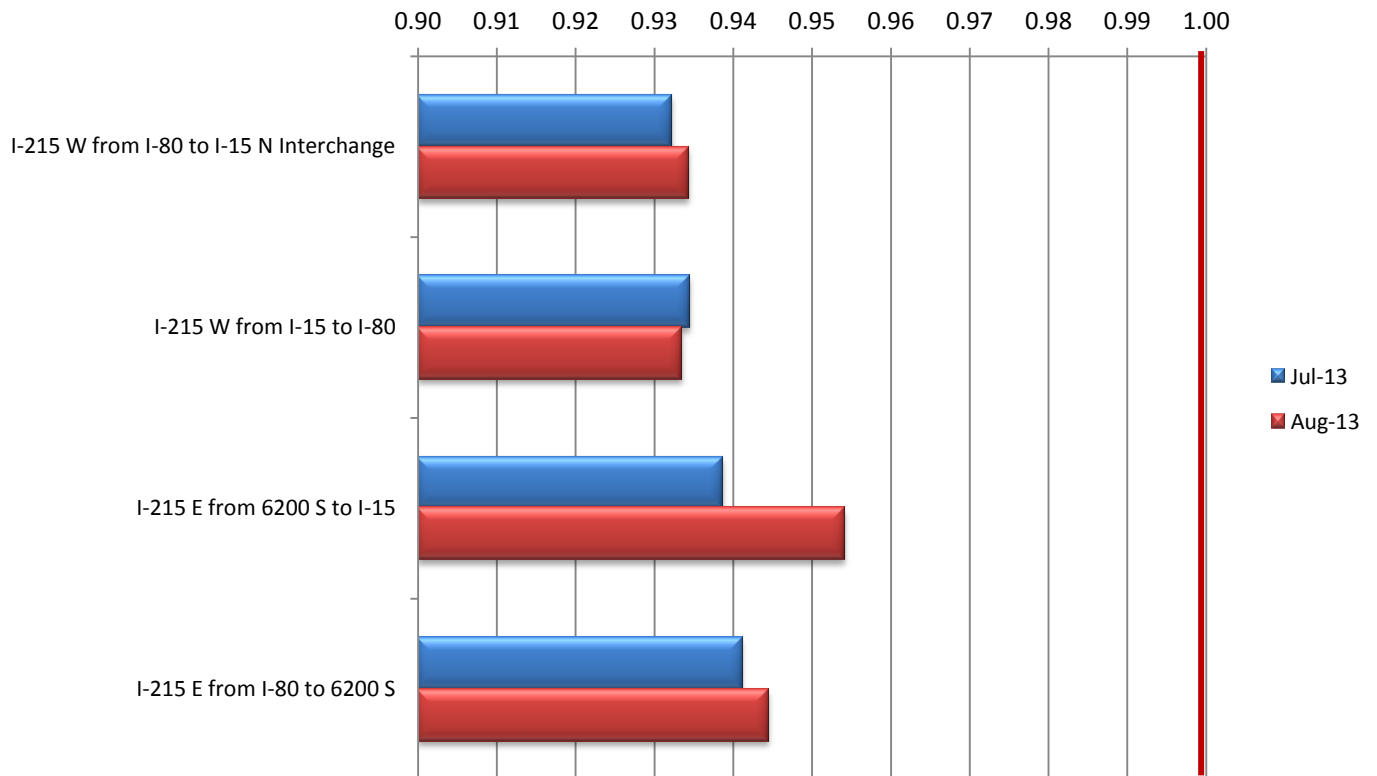


PM Peak Travel Time Index for I-80 FY 14

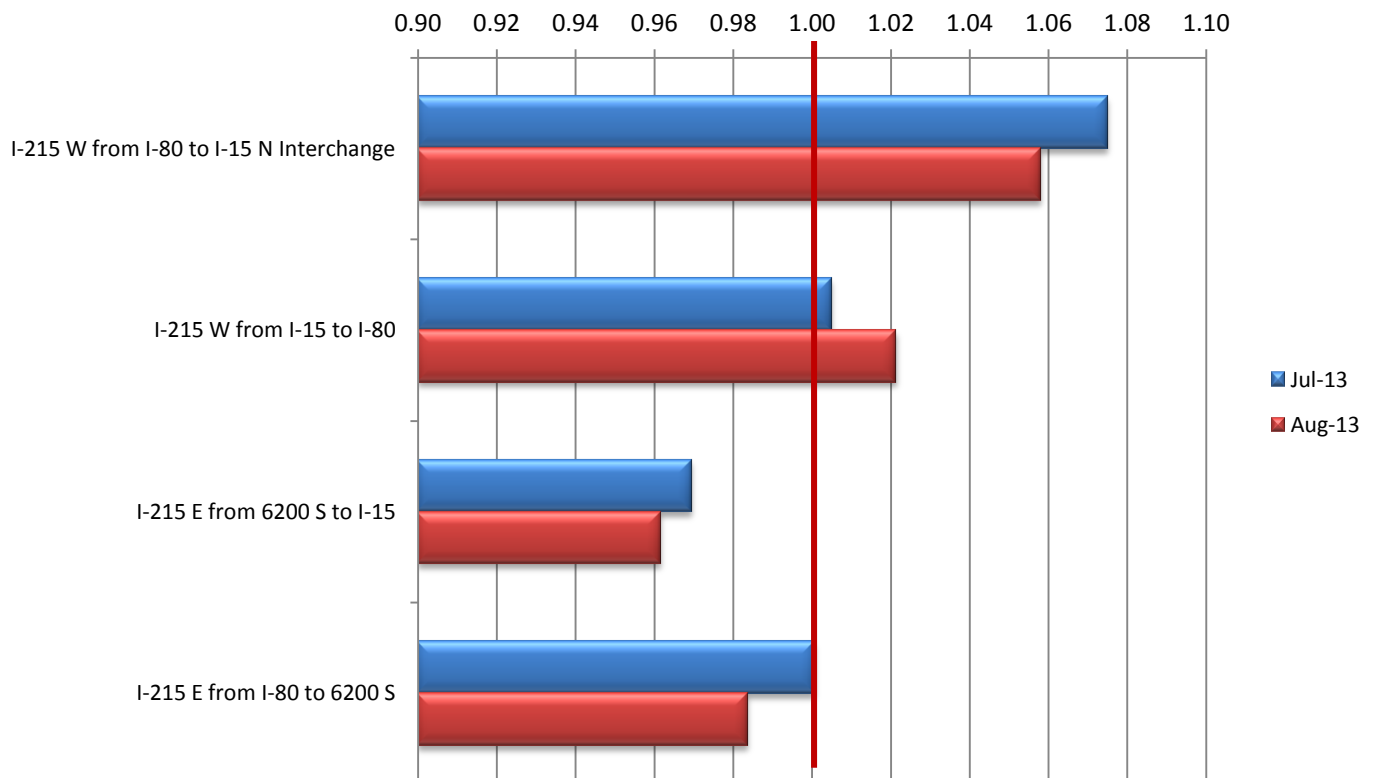


Freeway Traffic Level of Service

AM Peak Travel Time Index for I-215 FY 14

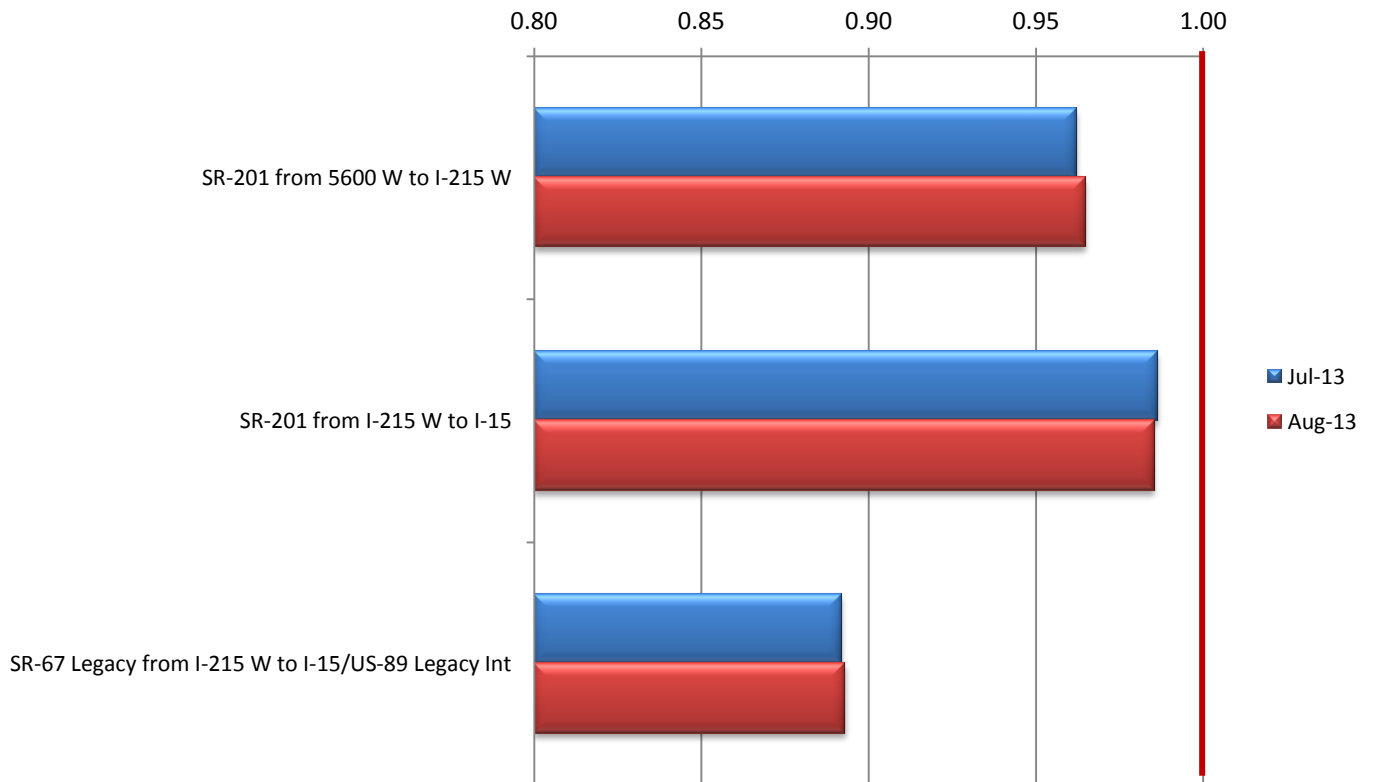


PM Peak Travel Time Index for I-215 FY 14

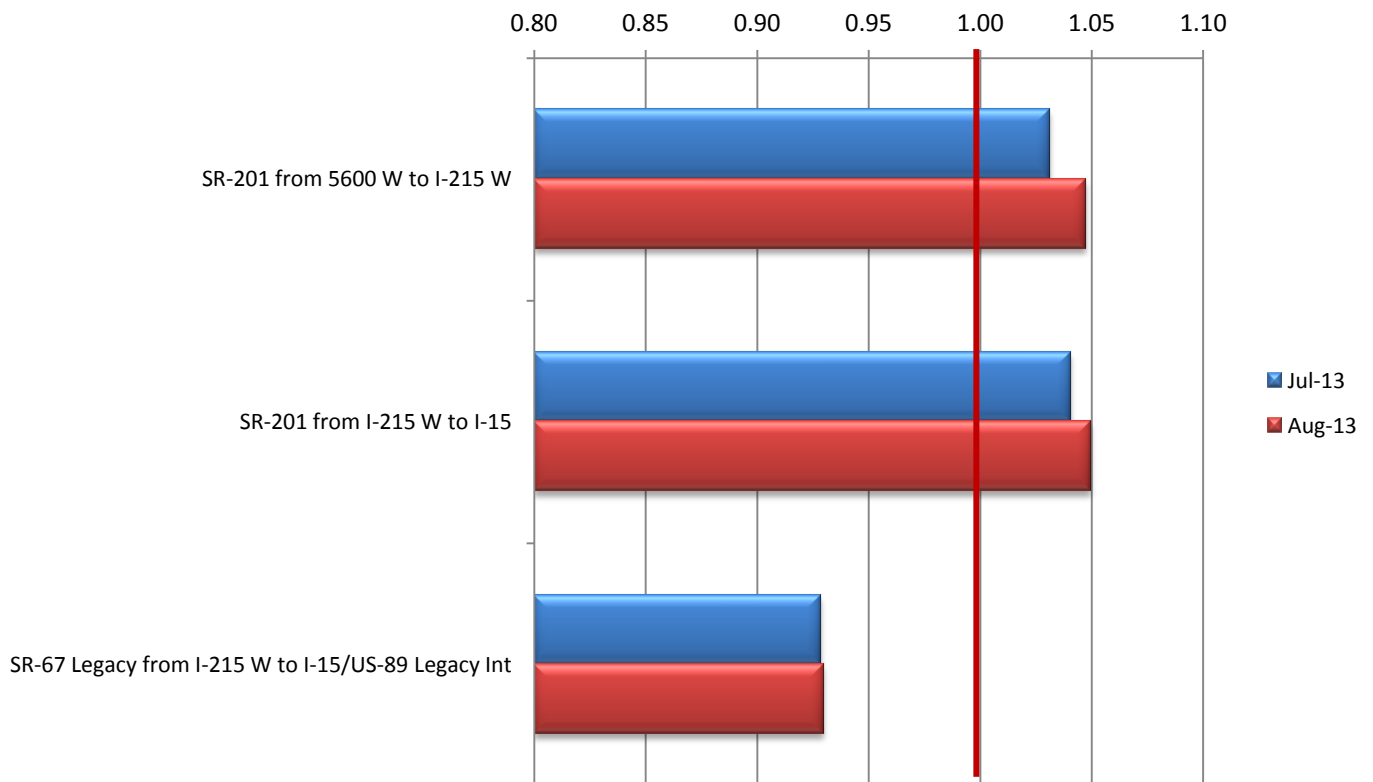


Freeway Traffic Level of Service

AM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 14



PM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 14



Surface Street Traffic Level of Service

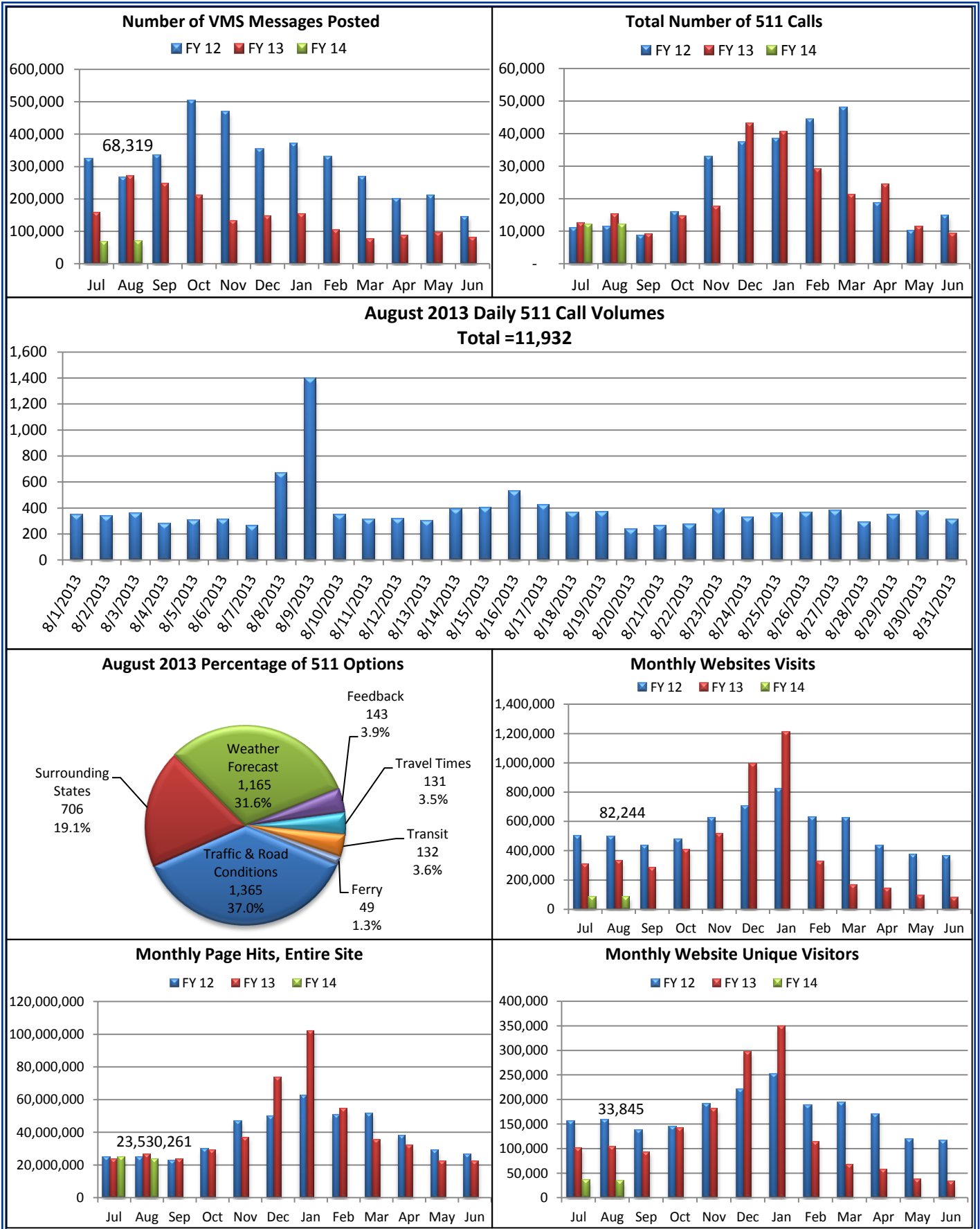
The surface street traffic statistics are generated through a series of Travel Time measurements. These are conducted using a special equipped vehicle which measures the average travel time, the average percent of intersections at which a vehicle must stop, the average time stopped at an intersection, and the average speed. The Traffic Systems Section gathers these measurements from Regions 1, 2, 3, and 4 twice each year. The chart in the lower right hand corner shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.

The following charts illustrate data gathered during semi-annual timing runs.

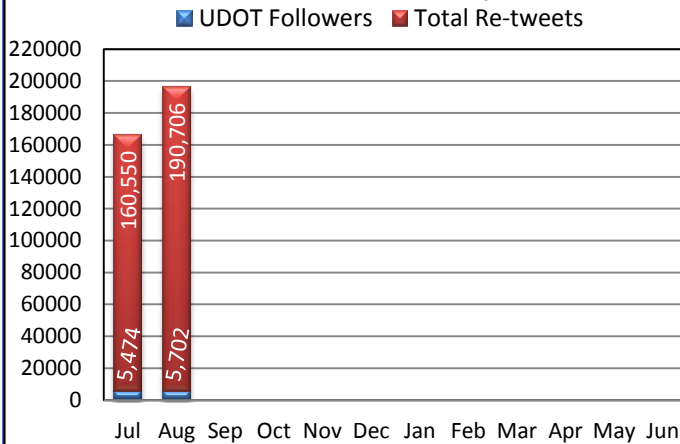




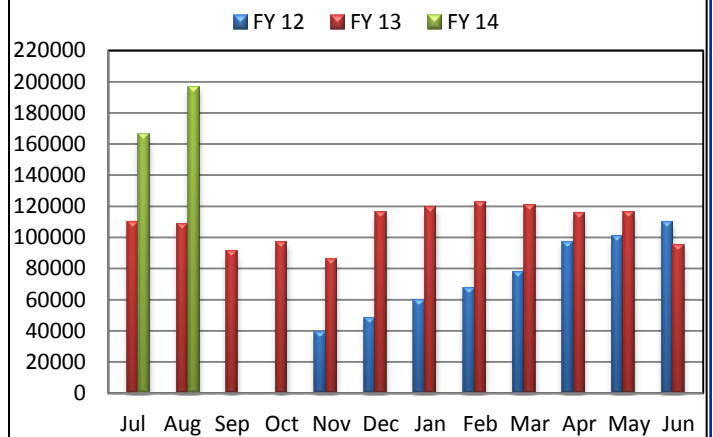
Traveler Information



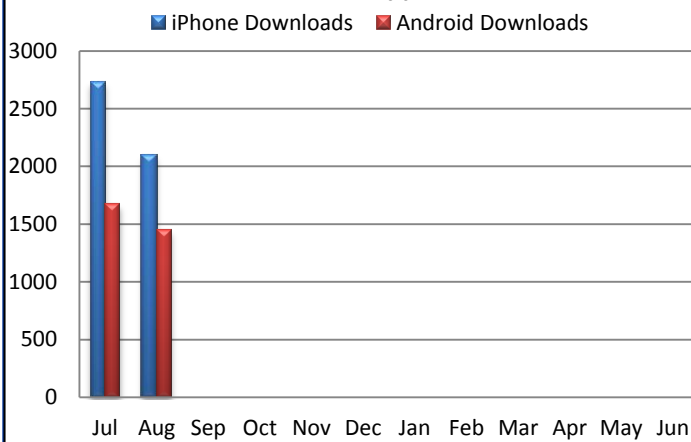
UDOT Traffic Twitter Activity - FY 14



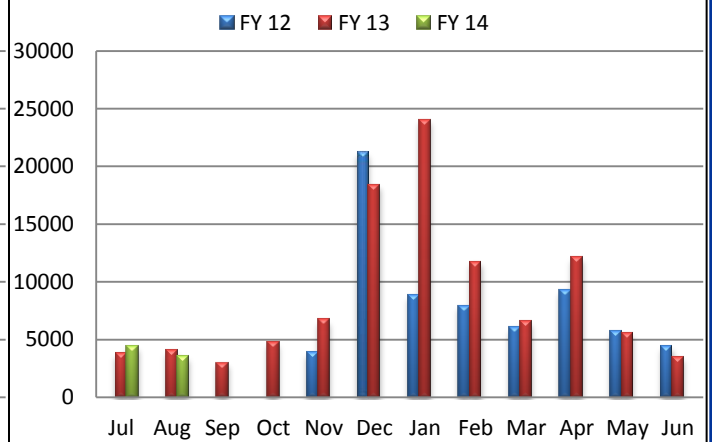
UDOT Traffic Followers and Re-tweets



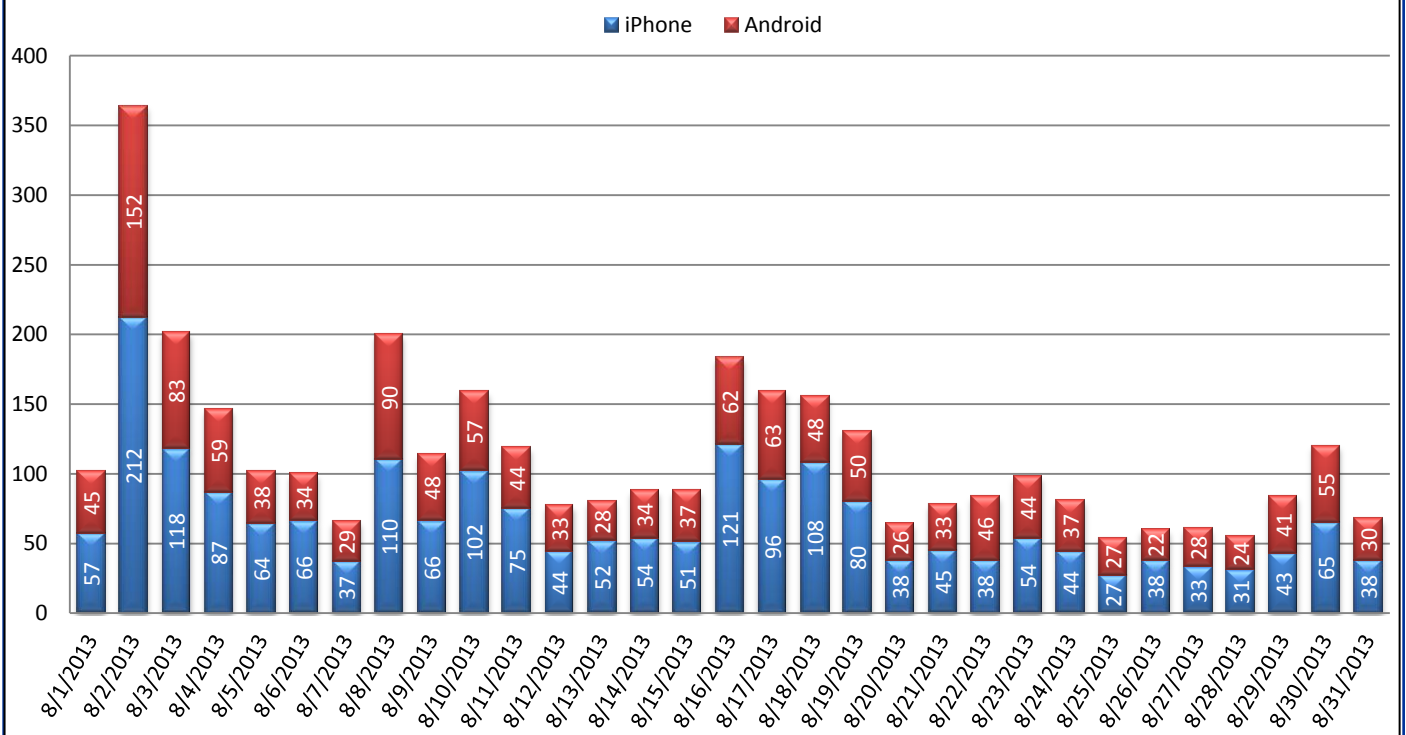
UDOT Traffic App - FY 14



UDOT Traffic App Downloads



UDOT Traffic App Downloads - August 2013



Customer Service

